

# Chapter 14

## A Framework for Integrating Artificial Intelligence Into Library and Information Science Curricula

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### ABSTRACT

*Integrating artificial intelligence (AI) into Library and Information Science (LIS) curricula is gaining momentum as scholars engage on the subject. Lots of research publications have emerged on AI in LIS. This chapter conceptualized a theoretical framework that should underpin the AI curriculum for University of Eswatini. The study is anchored on the interpretive research paradigm, which surrounds a systematic literature review. This conceptual study was preliminary, and the researchers hoped that further empirical studies based on the findings of this study could be pursued in the future. This chapter, therefore, addresses the following issues: rationale for integrating AI in the curricula of the University of Eswatini, a theoretical framework for AI curriculum, and prospects for integrating AI into the curricula of the University of Eswatini.*

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## **INTRODUCTION**

The debate about embedding artificial intelligence (AI) in Library and information science (LIS) is gaining momentum as scholars from developed and developing worlds engage on the subject. AI has emerged as a ubiquitous form of technology in our everyday lives. LIS schools have begun considering including AI modules in their curricula to prepare learners to learn about these emerging technologies. Such initiatives inevitably involve curriculum planning. As AI is an emerging field undergoing rapid changes and considering that instructors are most likely not familiar with its content, understanding how existing theoretical frameworks of curriculum planning can be invoked to respond to the situation would be of interest to the refinement of curriculum theories. While innovators among instructors are creating AI curricula, a recent review of AI in education has highlighted the lack of study on AI for LIS in Eswatini. Omame & Alex- Nmecha (2020) in their study on the state of AI in Libraries investigated several perspectives such as the extent to which AI was necessary, who should offer AI and why, who should be taught and at what levels, how long should be the duration of the course/programme and what should be included in the curriculum? This chapter builds on Omame & Alex- Nmecha 's work and proposes a framework for AI curricula for LIS education in Eswatini. Besides, the chapter explores the sources that would provide theory, corpora of knowledge and philosophical underpinning for the development of AI for LIS in Eswatini.

Understanding the subject of AI is important to appreciate the dynamics and implications of its integration in the curricula for LIS in Eswatini. AI is the science and engineering of making intelligent machines, especially intelligent computer programmes. It is concerned with the study and creation of computer systems that exhibit some form of intelligence: a system that learns new concepts and tasks, systems that can reason and draw useful conclusions about the world around us, systems that can understand a natural language or perceive and comprehend a visual scene, and systems that perform other types of feat that require human types of Intelligence (Kopcha, Neumann, Ottenbreit-Leftwich & Pitman, 2020). It is the Application of Computers and utilization of computer-based products and services in the performance of different library operations and functions or the provision of various services and production of output products. Automation implies a degree of mechanization where the routines and receptive jobs or operations are left to be performed by machines with little or no intervention by human beings. The lesser the degree of human intervention, the greater the degree of automation and this does not mean that automation totally exclude human beings.

Including AI module in LIS curricula is an essential strategic initiative in LIS education in the digital era. AI education in LIS not only helps learners understand what the AI technologies are and how they work, but it also stimulates future AI researchers, ethical designers, and software developers (Pedró, Subosa, Rivas, Valverde, 2019). Integrating technology is still currently viewed as problematic and it is important to understand teachers' value-driven and feasibility assessment processes embedded within dynamically evolving school environments (Kopcha, Neumann, Ottenbreit-Leftwich & Pitman, 2020). Building on their work, integrating AI has unique challenges in that it is new to LIS schools, with the AI content not defined and the lecturers having to figure out where it fits in a crowded curriculum. Therefore, designing AI-related LIS curricula is very challenging for lecturers and it is important to raise the challenges lecturers face to facilitate curriculum planning work. Most recent studies related to AI curricula focused on what content knowledge and skills should be included and what AI tools are more effective for student learning (Williams, Park, & Breazeal, 2019). These studies viewed teaching as a transmission of knowledge and used the syllabus and assessment methods to plan their curriculum through identify-

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